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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,728	04/12/2001	Chaim M. Roifman	509942000100	3973

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EXAMINER

SACKEY, EBENEZER O

ART UNIT	PAPER NUMBER
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1626

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/834,728	Applicant(s) ROIFMAN ET AL.	
	Examiner EBENEZER SACKEY	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26,28-38 and 40-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12,16-26,31 and 44-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-26, 28-38 and 40-58 are pending.

Response to Amendment

Applicant's amendment and supplemental amendment filed on 7/14/03 and 10/27/03 respectively is acknowledged.

Applicants have cancelled claims 27 and 39. Claims 1-26, 28-29, 31-38 and 40-43 have been amended.

New claims 44-58 have been added to the application.

In new claim 52, line 2, after formula (I), the second NH₂ needs to be cancelled.

Response to Remarks

Applicants argue that the corrected names of compounds in the specification and the claims correspond to experimental protocol. Applicants further allege that the correction was due to mistaken prioritization of the alkene substituents, i.e., the cyano group has higher priority than the aminoethene group, making the second alkene Z). the corrections are noted.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

For rejections under 35 U.S.C. 112, first paragraph, the following factors must be considered (In re Wands, 8 USPQ2d 1400, 1404 (CAFC, 1988)):

- 1) Nature of invention.
- 2) State of prior art.
- 3) Level of ordinary skill in the art.
- 4) Level of predictability in the art.
- 5) Amount of direction and guidance provided by the inventor.
- 6) Existence of working examples.
- 7) Breadth of claims.

8) Quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See below:

1) Nature of the invention.

The claim is drawn to a method of treating cancer comprising administering to animal in need and effective amount of composition of claim 23. .

2) State of the prior art.

The prior art indicates that a wide range of growth factors coordinate the formation of cancers without indicating which cancer might be treatable with the instant

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composition. Applicants cite references on page 5 of the specification that pertains to various cancers without any further disclosure of any specific cancer treatable by the instant composition.

3) Level of ordinary skill in the art.

The level of ordinary skill in the art is high. The genus of cancer encompasses a vast number of cancers. Applicant's specification does not enable the public at large to treat such innumerable amounts of cancer encompassed by the instant method. Thus, the specification fails to provide sufficient support for the broad method of treating cancer. As a result, the skilled artisan would need to perform an exhaustive search for which cancer is treatable by the instant method. In a ruling by the CAFC, *Genetech Inc. v. Novo Nordisk A/S*, the court stated that

"a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable". *Genentech Inc. v. Novo A/S* (CAFC) 42 USPQ 2d. 1001, (3/13/1997).

4) Level of predictability in the art.

The art pertaining to methods for treating cancer remains highly unpredictable. Treating cancer requires various experimental procedures and without guidance that is applicable to all possible cancers, there would be little predictability in performing the claimed invention.

5) Amount of direction and guidance provided by the inventor.

Treating cancer encompasses a vast number of cancers. Applicant's limited guidance does not enable the public to treat such numerous amounts of cancers

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encompassed by the instant invention. There is no enablement for all cancers. In addition, it is noted that the specification does not define cancer.

6) Existence of working examples.

As discussed above, cancers encompass a vast number of diseases, which may have different pathways and mechanisms. Applicant's limited working examples do not enable the public to treat such numerous amounts of cancers encompass by the instant method. Applicants claim a plethora of cancers, which may be embraced by the instant method. The specification does not provide enablement for all cancers. It is noted in the specification on page 25, that applicants disclose various cancers, which may be treatable with instant compositions and compounds with the preferred ones being leukemia's, a lymphoma, myelomas, metastatic carcinomas sarcomas etc.

7) Breadth of claims.

The claim is extremely broad due to the vast number of possible cancers that can be treated with instant composition.

8) Quantity of experimentation needed to make or use the invention based on the content of the disclosure.

The specification did not enable any person skilled in the art to which it pertains to make or use the invention commensurate in scope with this claim. In particular, the specification failed to enable the skilled artisan to practice the invention without undue experimentation. The skilled artisan would have numerous amounts of modifications to perform in order to obtain compounds as instantly claimed.

Based on the unpredictable nature of the invention and state of the prior art and the extreme breadth of the claims, one skilled in the art could not perform the claimed invention without undue experimentation; see *In re Ambusher* 185 USPQ 152 CCPA 1975.

It is suggested to limit the cancer to be treated to those listed on page 25, lines 22-29 of the specification to obviate the rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 46, 52, 53, 54, are rejected under 35 U.S.C. 102(b) as being anticipated by EP 335641 B1 (Tibetan et al.).

Applicants claim pharmaceutical composition comprising a pharmaceutically acceptable diluent or carrier and a compound of formula (I), or salt, solvate or hydrate thereof.

Taketani et al., disclose compounds and compositions which anticipate the instant claims when R⁴ is C(X)R⁵, wherein X is O, and R⁵ is OH; R¹ is H, R² and R³ are each methoxy, R⁶ is OH. See the entire reference, for example, Example 7,

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

II. Claims 16-26, 44-45, 47-51, and 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruett et al. (EP 235198) or Taketani et al. (EP 335641 B1) or Phalangas et al. (U.S. Patent No. 4,950,467).

Applicants claim compounds, composition and methods of using formula (I) in treating disease state. The substituents are as defined in the claims.

Determination of the scope and content of the prior art (M.P.E.P. §2141.01)

Pruett et al. disclose compounds, which are similar to the instantly claimed compounds. See the entire publication, for example page 9, Example 1, Table 9, page 43, Examples 385 and 394. The reference compound read on for example instant claim 16, when R^4 is $C(X)R^5$ wherein X is O and R^5 is OH; and each of R^1 and R^3 are H or alkyl, and R^2 is $NH(C_{1-6} \text{ alkyl})$.

Taketani et al. disclose compounds, which are similar to the instantly claimed compounds. See the entire reference especially page 11, Example 3. Example 3, read

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on claim 1 when each of R¹ and R³ is H, R² is OH and R⁴ is C(X)R⁵ wherein X is O and R⁵ is OH.

Phalagas et al. disclose compounds similar to the instantly claimed compounds.

See columns 5 and 6, preparation numbers 13, 14, 15 and 16.

Ascertainment of the difference between the prior art and the claims (M.P.E.P. §2141.02)

The difference between the instant compounds and composition and that the references herein lie in the description of the compounds and composition.

Finding of prima facie obviousness---rational and motivation (M.P.E.P. §2142-2143)

The claimed compounds and composition would have been obvious because one of ordinary skill in the art would have been motivated to either prepare compounds and compositions embraced by the reference's genus or prepare positional isomers or homologs of the compounds taught in the references to arrive at the instantly claimed compounds and composition with the expectation that the obtained compounds and composition would have similar activity to that taught by the references. In order to establish patentability in positional isomers, there must at least be a comparative showing establishing distinguishing characteristics allegedly showing that the claimed compounds are unobvious. Ex Parte Henkel, 130 USPQ 474 (1960). The instantly claimed compounds and compositions would therefore have been suggested to one of ordinary skill. Additionally, the motivation to make the claimed compounds and composition derives from the expectation that structurally similar compounds are generally expected to have similar properties and similar utilities. In re Gyurik, 596, F2d. 1012, 201 USPQ 552 (CCPA), 1979.

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1. Claims 28-30, 32-38, 40-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

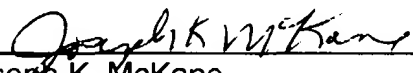
Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. Sackey whose telephone number is (703) 305-6889.

The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane, can be reached on (703) 308-4537. The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

EOS
November 3, 2003



Joseph K. McKane
Supervisory Patent Examiner
Art Unit 1626, Group 1600
Technology Center 1